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STUDIES OF PERUVIAN BIRDS. XXII[1]

NOTES ON THE PIPRIDAE

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As in previous papers of the series, names of colors when capitalized indicate direct comparison with Ridgway's 'Color Standards and Color Nomenclature.'

I am greatly indebted to Dr. C. E. Hellmayr for notes on certain specimens in European museums which have been of great assistance in the present study.

Pipra fasciicauda fasciicauda Hellmayr

Pipra fasciata D'ORBIGNY AND LAFRESNAYE (nec THUNBERG, 1822), 1837, Mag. Zool., VII, cl. 2, Syn. Av., p. 38—Yuracares = Guarayos, Bolivia; ♂; Paris Mus.

Pipra fasciicauda HELLMAYR, 1906, Ibis, p. 9—new name for *Pipra fasciata* D'Orbigny and Lafresnaye.

Two males and a female from Candamo, southeastern Perú, belong to this Bolivian form. Hellmayr has compared skins from Yahuarmayo with the type and found them inseparable. Six males from Todos Santos and Mission San Antonio, nearer to Cochabamba than the type locality, are marked by a very slightly deeper shade of orange on the breast in some specimens, but the difference is inconsiderable. A single male from the "Falls of the Madeira" is definitely more reddish on the breast and comes very close to *scarlatina* which is found on the Gy-Paraná in western Brazil, not far to the eastward. Possibly this bird belongs to *scarlatina* rather than to *fasciicauda* though the locality is nearer to the range of the latter. Three skins, one female and two of uncertain sex, from the Province of Sara, between Cochabamba and Matto Grosso are indeterminate as to subspecies. They may be referred to *fasciicauda* until adult males are available for better determination.

The range of *fasciicauda* in Perú is restricted to the upper Tropical Zone in the southeastern part of the country. Records are from Yahuarmayo.

[1] Earlier papers in this series comprise American Museum Novitates Nos. 500, 509, 523, 524, 538, 545, 558, 584, 646, 647, 668, 703, 728, 753, 756, 757, 785, 819, 860, 861, and 862.

Pipra fasciicauda purusiana Snethlage

Pipra fasciicauda purusiana SNETHLAGE, 1907, Orn. Monatsb., XV, p. 160—Ponto Alegre, Rio Purús, Brazil.

I have seen no topotypes of this form but I have several skins from eastern Perú which have been compared by Hellmayr with typical birds. Compared with these, other birds from the upper Ucayali show no more than individual differences. Hellmayr has noted that he found Purús examples (males) to have two or four median rectrices devoid of white, two or three external pairs banded with white, and the intervening feathers with a white patch near the base of the inner web; the Peruvian birds had the six median rectrices entirely black. The series now before me shows this character to be extremely variable in the Peruvian specimens. One bird has the four outer pairs of rectrices banded and the submedian pair marked with a white spot on the inner web. One skin has white only on the outermost pair where it crosses both webs, while five pairs are all black. Sixteen other males show the various stages of intermediacy between these two extremes. Apparently, therefore, there is no constant difference between the birds of the Purús and those of eastern Perú.

Specimens in the British Museum collected by Bartlett on the "Upper Ucayali" probably are from the neighborhood of Cashiboya and represent the lowest point on this river from which specimens have been obtained. All our material is from localities higher upstream.

A small series of skins from a hitherto unrecorded locality for the species, between the Huallaga and Marañón rivers, shows certain differences from *purusiana* which warrant the recognition of a new form to be known as follows.

Pipra fasciicauda saturata, new subspecies

TYPE from Río Seco, west of Moyobamba, Perú; altitude 3000 feet. No. 234,908, American Museum of Natural History. Adult male collected July 22, 1925, by Harry Watkins; original No. 9485.

DIAGNOSIS.—Similar to *P. f. purusiana* but males with red of under parts deeper in color and of greater extent, invading the lower throat, the belly, and the under tail-coverts, at least on the tips of the feathers; flanks with subterminal portions of the feathers darker and more sooty; forehead lighter yellow, more sharply defined from the red of the crown.

RANGE.—Known only from the type locality in northern Perú, between the Marañón and Huallaga rivers.

DESCRIPTION OF TYPE.—Forehead Deep Chrome × Light Orange-Yellow in a band reaching back to the anterior border of the orbit, sharply defined from the red of the crown; remainder of the top of the head, neck, and a rounded "cape" on the anterior mantle rich blood-red, sharply defined from the deep, velvety black of the

remainder of the back and upper tail-coverts. Lores like forehead; upper and lower eyelids paler, Pinard Yellow, forming a narrow ring around the orbit; auriculars red, with yellow bases not entirely concealed; chin and anterior part of throat Light Cadmium but most of the throat with definite red tips; malar region anteriorly yellow, posteriorly tipped with reddish; breast, upper belly, and sides red like the crown; lower belly and basal half of under tail-covert region with red tips through which the Light Orange Yellow of the subterminal color is apparent; terminal half of the under tail-covert region black; flanks largely sooty blackish, with superior margins narrowly dull yellowish, inferior margins stained with reddish; some streaks of whitish on uppermost feathers; thighs yellow; tuft of silky feathers between femoral and spinal tracts yellowish white. Wings black, with a white patch on the inner webs of all the remiges medially; upper wing-coverts black; carpal margin and under wing-coverts yellow; axillars yellow stained with red. Tail black, with a yellowish white band crossing both webs of the outermost rectrices, crossing both webs (more narrowly) of the second pair, present on the inner web and a very narrow area of the outer web of the third, and occupying a small basal area on the inner webs of the fourth and fifth. Bill (in dried skin) black; feet dull maroon. Wing, 65 mm.; tail, 25; exposed culmen, 9.5; culmen from base, 13; tarsus, 15.

REMARKS.—Female much brighter yellow and olive than the same sex of *purusiana*. A slight tinge of red is present on the upper belly in the single female at hand. This may not be a constant character, since it is to be noted in occasional specimens of other forms.

This subspecies occupies a region which gives an extension to the known range of the species and is the farthest removed from any contact with the *aureola* group. Nevertheless, it presents characters that suggest some of the features of *aureola* and its allies, although there is still a taxonomic hiatus. The sooty flanks of *saturata* are not so fully black as in the *aureola* group; the basal region of the under tail-coverts is more broadly pale, though it is narrower in *saturata* than in other members of the *fasciicauda* group; the whitish markings on the tail form a band crossing both webs of at least two rectrices and are present on various other of the rectrices, whereas in the *aureola* group such markings are all but obsolete even on the outermost feathers; finally, the females of both groups are distinguishable by the color of the under tail-coverts, grayish olive in the *aureola* group and definitely yellowish in the *fasciicauda* group.

In the matter of range, there is no conflict between the two groups, but the distinction is as much altitudinal or ecological as geographical. The range of *aureola* as a species comprises the lower elevations in the Guianas and along the lower Amazon and the mouths of its tributaries only as far west as the Rio Negro and the left bank of the Rio Madeira. In the Amazonian portion of this range the habitat is largely, if not ex-

clusively, the "varzea" or periodically inundated area. At somewhat higher elevations occur the members of the *fasciicauda* group, reaching well down toward the mouths of the Tocantins and Tapajoz rivers (possibly also the Xingú), but withdrawing farther upstream along the Madeira where the fall is less rapid. It does not reach the main course of the Amazon at all nor the mouths of any of the tributaries, but extends across the headwaters of the Tocantins to the Paraná and westward across the Beni, Purús, and Ucayali into eastern Perú, reappearing in the form here described, between the Huallaga and the Marañón.

Some of the range of the *fasciicauda* group certainly is beyond and above the area of the "varzea," but part of it appears to overlap, and Dr. E. Snethlage has reported "*fasciicauda*" (= *scarlatina*) from the "varzea" of the lower Tocantins, although the locality, Arumatheua, is farther upstream than the places from which we have *aureola*—Mocajuba, Baião, and Ilha Taiuna. Thus it seems to be impossible to separate the ranges of the two groups on strictly ecological grounds although there is a factor of this nature which may have some fundamental bearing on the case.

So close are the two groups that it would require no great struggle to consider them as members of the same species. Nevertheless, each has developed a series of subspecies for itself forming two readily recognizable groups and it may be best to continue their recognition as two species.

Study of the *aureola* group in the present connection has brought out certain facts of distribution and taxonomy which may properly find a place in these pages as follows.

Pipra aureola aureola Linnaeus

Pipra aureola Linnaeus, 1758, 'Syst. Nat.,' 10th Ed., I, p. 191—based on Edwards, 'Nat. Hist. Birds', II, p. 83, Pl. lxxxiii, fig. 2; "from some part of South America, near the equinoctial line" = Surinam, suggested by Hellmayr, 1906.

Four adult males from the Tocantins and six from the right bank of the Xingú are perfectly inseparable from thirty-two French, Dutch, and British Guiana birds, two from the mouth of the Orinoco, Venezuela, and two from Palheta, Brazil (Marajó Island?). The females of the various forms are not distinguishable in any case. The range of *aureola* must, therefore, be extended to include this eastern region south of the Amazon. West of the Xingú as far as the left bank of the Tapajoz, the birds are exactly intermediate between *aureola* and *flavicollis*. These intermediates have been described by Todd as *aurantiicollis*, under which name I have discussed them further.

Pipra aureola flavicollis Sclater

Pipra flavicollis SCLATER, 1851, Contrib. Orn., p. 153—Barra do Rio Negro (= Manaos), Brazil; ♂; British Mus.

There has been some uncertainty about the correctness of the locality where the type was collected and even yet this is the only specimen recorded from Manaos although Hellmayr (1929) accepted the citation at face value. Farther eastward, at Faro, the resident form is quite distinct from *aureola* and agrees with the characters ascribed to the Manaos form. Specimens from Obidos also have been assigned to *flavicollis* by Todd and by Hellmayr. One of the characteristics of *flavicollis* is the moderately broad and quite well-defined yellow frontal band, although a very few examples have a tinge of reddish on the forehead about as in *aureola*. In this respect, as also in the other peculiarities of *flavicollis*, five males from Villa Bella Imperatríz (east of the mouth of the Madeira) and ten from Rosarinho (west of the mouth of the Madeira) agree in detail and must belong to *flavicollis*. On the other hand, skins from farther up the Madeira, at Borba on the right bank and at Humaythá on the left bank, are immediately separable by a much wider yellow area on the forehead which is not at all sharply defined from the red crown but grades into it. So constant is this feature that I believe a new form may safely be described from this region, to be known as follows:

Pipra aureola borbae, new subspecies

TYPE from Borba, right bank of the Rio Madeira, Brazil. No. 279,908, American Museum of Natural History. Adult male collected February 5, 1930, by the Olalla brothers.

DIAGNOSIS.—Similar to *P. a. flavicollis* of Faro (and Manaos) but males with yellow of forehead much broader, reaching well behind the anterior border of the orbits and merged gradually into the red of the crown, not narrow and sharply defined. Tail averaging shorter. Distinguished from *P. a. aurantiicollis* of the lower Tapajoz by paler yellow throat of a much broader extension over the chest and by a much broader yellow area on the forehead.

RANGE.—Right bank of the lower Rio Madeira (well above the mouth), Brazil, crossing to the left bank in the vicinity of Humaythá.

DESCRIPTION OF TYPE.—Forehead Cadmium Yellow, tinged with Orange at the tips, in a broad patch reaching to near the middle of the orbit where it merges into the color of the crown; crown, nape, and a broad circular "cape" on the anterior back brilliant red, with subterminal portions of the feathers deep yellow and bases white; rest of back deep black. Lores, a narrow line on upper eyelids, postocular area, base of auriculars, malar region, chin, and throat Cadmium Yellow; tips of auriculars and sides of neck red like the crown; breast and a rather broad stripe on the middle of the belly red; sides of breast yellow with red tips; flanks and sides of belly black; under tail-coverts black; thighs whitish, with a light yellow tinge; under wing-coverts white, with a yellowish tinge at the tips and with the carpal margin strongly Lemon

Chrome; a blackish patch at the bases of the under primary-coverts more or less prominent; axillars with deep Lemon Chrome tips and white bases; a tuft of silky white feathers on the sides of the body between the femoral and spinal tracts. Remiges black, with a large white patch on the inner webs of all the quills except the innermost tertial, though reduced in size on the outermost primary; upper wing-coverts black except for a yellow carpal margin and a yellow area on the smallest lesser coverts. Tail entirely black. Wing, 62 mm.; tail, 23; exposed culmen, 9; culmen from base, 12; tarsus, 15.

REMARKS.—Females indistinguishable from those of *flavicollis* and *aurantiicollis*.

The difference from *flavicollis* is perfectly diagnostic in fifteen adult males of the new form and twenty-three of *flavicollis*. One male of *borbae* and two of *flavicollis* have the forehead tinged with reddish, but the difference in the width of the area is still apparent in the two groups although in both cases there is no sharp dividing line between forehead and crown. In these two specimens of *flavicollis* the coloration of the forehead is like that of typical *aureola* although the throat is broadly yellow as in other *flavicollis*. One skin is from Faro and the other from Rosarinho (cf. account of *flavicollis*).

The passage across the upper Madeira to the left bank is interesting in view of the fact that *flavicollis* occupies the left bank at the mouth and *P. fasciicauda calamae* the right bank a little above Humaythá.

Pipra aureola aurantiicollis Todd

Pipra aureola aurantiicollis TODD, 1925 (July 15), Proc. Biol. Soc. Wash., XXXVIII, p. 96—Santarem, Brazil; ♂; Carnegie Mus.

The only specimens at hand from the type locality are two birds without given sex, apparently a female and a young male, neither of which show the diagnostic characters of this form. However, I have adult males from both east and west of this region which are more or less readily separable from both *aureola* and *flavicollis*, being intermediate between them, both in characters and distribution.

The forehead is very narrowly deep yellowish, not sharply defined from the red crown, comparing well with *aureola*. However, the throat is broadly yellow instead of reddish-tinged, being in pattern much as in *flavicollis* though the hue is slightly deeper. (A male from the Rio Jarý has a slight tinge of red at the tips of the throat-feathers and appears to be an extreme of *aureola* since a Cayenne bird is very like it.) Since it is impossible to refer these males either to *aureola* or to *flavicollis*, the recognition of this intermediate form seems to be justified.

A female and a young male from Monte Alegre unfortunately are

not determinable as to subspecies. Since the locality is between Obidos and the Rio Jarý, it is possible that the form at Monte Alegre is the intermediate subspecies, *aurantiicollis*, but adult males will be needed to determine this point. In the meantime I tentatively refer these two specimens to *flavicollis*, the form recorded from Obidos.

SPECIMENS EXAMINED

P. f. fasciicauda.—BOLIVIA: Todos Santos, 3 ♂, 1 ♀; Mission San Antonio, 4 ♂; Province of Sara, 1 ♀, 2 (?); Falls of the Madeira, 1 ♂. PERÚ: Candamo, 2 ♂, 1 ♀.

P. f. purusiana.—PERÚ: Río Ucayali, Lagarto, 11 ♂, 1 ♀; Santa Rosa, 6 ♂, 1 ♀; mouth of Rió Urubamba, 1 ♂; Chuchurras, 4 ♂.

P. f. saturata.—PERÚ: Río Seco, west of Moyobamba, 4 ♂ (incl. type), 1 ♀.

P. f. scarlatina.—BRAZIL: São Paulo, Fazenda Cayoá, 3 ♂, 1 ♀; Iturerava, 1 ♂, 1 ♀; Minas Geraës, Rio Jordão, 3 ♂, 1 ♀; Goyaz, Fazenda Esperanza, 2 ♂; Matto Grosso, Chapada, 14 ♂, 9 ♀, 2 (?); Descalvados, 1 ♂; Tapirapoan, 1 ♀; Rio Tocantins, Arumatheua, 2 ♂; Rio Tapajoz, Itaituba, 1 ♂.

P. f. calamae.—BRAZIL: Rio Madeira, Calamá, 2 ♂ (incl. type), 2 ♀; Alliança, 1 ♂, 1 ♀; Rio Preto, Santa Isabel, 1 ♂, 1 ♀.

P. a. aureola.—DUTCH GUIANA: 14 ♂, 5 ♀, 1 (?). FRENCH GUIANA: 15 ♂, 9 ♀. BRITISH GUIANA: 15 ♂. VENEZUELA: El Pilar, 1 ♂; Las Barrancas, 1 ♀; Guanoco 1 ♂. BRAZIL: Palheta, near Pará, 2 ♂, 1 ♀; Rio Tocantins, Ilha Taiuna, 3 ♂, 1 ♀; Mocajuba, 2 ♂, 2 ♀; Baião, 1 ♀; Rio Xingú, Tapará, 7 ♂, 3 ♀; Rio Jarý, Santo Antonio de Cachoeira, 1 ♂.

P. a. aurantiicollis.—BRAZIL: Rio Tapajoz, Igarapé Amorin, 2 ♂, 1 ♀; Inajatuba, 1 ♂; Santarem, 1 (♂), 1 (♀?); Rio Amazonas, Tamucurý, 1 ♂.

P. a. flavicollis.—BRAZIL: Faro, 12 ♂, 9 ♀. Monte Alegre, 1 ♂, 1 ♀; Villa Bella Imperatríz, 7 ♂, 1 ♀; Rio Madeira (left bank), Rosarinho, 13 ♂, 12 ♀; Santo Antonio de Guajará, 1 ♀.

P. a. borbae.—BRAZIL: Rio Madeira (right bank), Borba, 8 ♂ (incl. type), 1 ♀; Igarapé Auará, 4 ♂, 1 ♀; (left bank), Humaythá, 6 ♂, 1 ♀, 1 (?).

Pipra pipra pipra (Linnaeus)

Parus pipra LINNAEUS, 1758, 'Syst. Nat.' 10th Ed., I, p. 190—based on "Cacototl" of Seba; "in Indiis" = Surinam.

Pipra leucocilla LINNAEUS, 1764, 'Mus. Ad. Frid.,' II, Prodr., p. 33—no loc.; Surinam suggested by Berlepsch and Hartert, 1902.

I have examined a series of two hundred and thirteen specimens from the three Guianas; northern Brazil from Faro to Manacapurú, the Rio Branco, Rio Negro and Rio Uaupés, and from Teffé on the south bank of the Amazon; extreme eastern Colombia on the Uaupés; and Venezuela on the Cassiquiare, Orinoco, and Caura rivers and Mt. Duida. In all this material I am unable to find any constant characters of sufficient value to enable me to propose any subdivisions. In general, the crest of the males is long and extended well over the nape, with dusky bases on

all but some of the forehead feathers. The back is quite glossy, with a slight violaceous hue, and the belly and under tail-coverts are usually a little less glossy and less deeply black than the breast. Birds from Dutch and French Guiana and those from Faro, Brazil, average a little smaller than those from British Guiana, Venezuela, and the Rio Negro in Brazil, but there is no sharp line of demarcation and any division on these measurements would be rather arbitrary. The birds from Teffé appear to be typical, although *microlopha* occurs at São Paulo de Olivença, also south of the Amazon, farther west in Brazil.

Pipra pipra comata Berlepsch and Stolzmann

Pipra comata Berlepsch and Stolzmann, 1894, Ibis, p. 392—La Gloria, Chanchamayo, and Garita del Sol, Vitoc, Perú; cotypes in Frankfort Mus., Warsaw Mus. and Amer. Mus. Nat. Hist.

In an earlier paper (1929, Proc. Biol. Soc. Wash., XLII, pp. 85–88), I expanded the limits of variation of *comata* to include specimens from the Huallaga, but it now appears that these more northern specimens are distinct enough to deserve separate recognition. Typical *comata* apparently occupies a rather restricted range in the Chanchamayo and Urubamba valleys at relatively high elevations in the Tropical Zone, and males from this region are well-marked. The back is darker and slightly less glossy than in *pipra*, the crest is unusually long and full with white bases on all of the plumes, the wings and tail are long, but the bill is noticeably weak. A male from the mouth of the Urubamba River has shorter wings and tail but agrees in color characters and appears to be intermediate between *comata* and *microlopha*. No authentic females appear to have been described, but if a female from the mouth of the Urubamba belongs here instead of to *microlopha*, it may be distinguished from the females of *microlopha* by its much more whitish belly and throat and paler, less distinctly greenish breast. As in the male from the same locality, its measurements are small for *comata*, supposing the female of that form to approximate the male in size.

Pipra pipra microlopha Zimmer

Pipra pipra microlopha Zimmer, 1929 (March 25), Proc. Biol. Soc. Wash., XLII, p. 85—Puerto Bermúdez, Río Pichis, Perú; ♂; Field Mus. Nat. Hist.

Additional material now before me confirms the characters of this form which is separable from *comata* by the markedly shorter crest of the adult males, with the bases of the forehead feathers white but those of the nape usually gray or dusky, while those of the crown are variably gray or whitish. The color of the back is about as in *comata*, with the

same degree of gloss, and the wing and tail are shorter though the bill is slightly wider at the base than in typical examples of *comata*. The females and young males are much like those of typical *pipra*.

The range of *microlopha* in Perú is in the lower Tropical Zone on affluents of the Pachitea and on the south bank of the Amazon below the mouth of the Ucayali. The situation on the Ucayali itself is not clear.

Our only specimen from Sarayacu, on the lower Ucayali, is a female which is not perfectly determinable as to subspecies although certain affinities are apparent. It agrees well with Orosa skins and is only slightly less whitish on the belly and a little darker green on the breast than the female of *comata* × *microlopha* from the mouth of the Urubamba. It is too large to be associated with the form found at Chamicuros and Xeberos, although it is most like it in color. All characters considered, it is closest to Orosa specimens of the same sex, and it may be referred to *microlopha* without much question. An early record from Sarayacu, possibly the female recorded in the Catalogue of Birds of the British Museum as from "R. Ucayali," presumably represents the same form.

A disturbing factor is found in two adult males supposedly from Lagarto, on the right bank of the upper Ucayali, below the mouth of the Urubamba. These birds are neither *comata* nor *microlopha* but belong to the form found on the north bank of the lower Marañón and the lower Napo in eastern Ecuador. Several females and young males from Lagarto are uncertain as to race since I can find no distinguishing factors between these plumages of *microlopha* and the lower Napo form, to one or other of which they should belong. If the Lagarto birds are correctly labeled, the distribution of this form is peculiar as will be discussed under the proper heading. It would be expected that *microlopha* would occur at this locality.

Pipra pipra occulta, new subspecies

TYPE from Uchco, east of Chachapoyas, Perú; altitude 5000 feet. No. 234,914, American Museum of Natural History. Adult male collected November 3, 1925, by Harry Watkins; original No. 9842.

DIAGNOSIS.—Similar to *P. p. comata* of the Chanchamayo and Urubamba regions, but adult males with the occipital feathers slightly shorter and, with the crown and occipital feathers sooty at the base instead of entirely white. Wing and tail averaging shorter. Differs from *microlopha* of the Ucayali valley by definitely longer crest and somewhat more slender bill.

RANGE.—Higher elevations of the Tropical Zone in the Huallaga Valley from Chinchao to Uchco.

DESCRIPTION OF TYPE.—Whole top of head back to and including hind neck

white, with the bases of all the feathers behind the forehead sooty gray; forehead feathers white at base. White feathers on hind neck long (10 mm.) forming a sort of cape overlying the anterior part of the mantle. Remainder of upper surface deep steely black with a violaceous tinge and with a noticeable sheen. Lores, sides of head, and under parts like the back. Wings and tail sooty black, with a narrow border of violaceous-black on quills and upper wing-coverts. Under wing-coverts like breast. Wing, 66.25 mm.; tail, 31.5; exposed culmen, 7.5; culmen from base, 11; tarsus, 14.5; length of white cap from exposed base of culmen, 31.5; length of nuchal feathers, 10.

REMARKS.—Females are a little more yellowish green on the back than those of *microlopha;* the under parts are more strongly greenish, with darker and more grayish subterminal areas, especially noticeable on throat and belly. These green hues are all darker than in *coracina* which is otherwise suggested. Top of the head sometimes clear gray, including nape, sharply defined from the green of the back, but some skins have the cap overlaid with green as in other forms. Young males not certainly distinguishable from females (if my material is correctly sexed).

This is a form which I once (1929, Proc. Biol. Soc. Wash., XLII, p. 85) associated with *comata* but which I now believe to be distinct. The sooty bases of the crown and nape feathers are quite constant in all the adult males examined and their absence is equally constant in the Chanchamayo and Urubamba specimens of *comata.*

Pipra pipra pygmaea, new subspecies

TYPE from Chamicuros, Perú. No. 492,906, American Museum of Natural History (Rothschild Collection). Adult male collected May 6, 1867, by Edward Bartlett.

DIAGNOSIS.—Similar to *P. p. comata* of the Chanchamayo and Urubamba Valleys but size distinctly smaller; bases of occipital and nuchal feathers of adult males gray, not white, and crown-feathers also sometimes slightly ashy. Resembles *occulta* to a limited extent in this respect, but size smaller. Females and young males differ from those of *occulta* by much paler coloration; throat and belly decidedly more whitish; breast paler and duller greenish; back paler and duller green. The females and young males are much more like those of *microlopha* but are even lighter in coloration and, like the adult males, are smaller in size.

RANGE.—Tropical Zone of the lower Huallaga, on both sides of the river near its mouth.

DESCRIPTION OF TYPE.—Whole top of head white, back to a long nuchal crest; forehead and most of crown white at the bases of the feathers; occiput and nape very narrowly gray at bases; rest of upper surface glossy violaceous-tinged black; sides of head and under part of body very slightly less glossy than back and with a little tendency toward a more sooty tone on the belly and under tail-coverts. Wings and tail blackish with narrow glossy margins on quills and upper wing-coverts. Wing, 58 mm.; tail, 24; exposed culmen, 7; culmen from base, 11; tarsus, 11.25; crest from exposed base of culmen, 26.5; nuchal feathers, 10.5.

REMARKS.—Females are very similar to those of *microlopha* except for smaller size, but are slightly lighter in coloration, with the gray of the head overlaid with green and with the lower throat more whitish and the back averaging lighter green. Young males in first annual plumage are somewhat darker and more grayish green than the females and are grayer on the under parts, with the green of the breast in particular less pronounced than in the same plumage of *occulta*, approaching immature males of *microlopha* in this respect though not in size.

Several specimens of both sexes resemble the birds in first annual plumage except that the outer margins of the remiges are more yellowish and the upper wing-coverts somewhat brownish, being also softer in texture. This appears to be the juvenal plumage, at least in part, and it may be detected in the other subspecies by the same characters.

A female from Chamicuros is in unusual plumage, having the whole top of the head white with a slight admixture of gray, although the back matches normal adult females of *pygmaea* and the under parts are like young males of *pygmaea*. The specimen was collected by Bartlett who has labeled it as "♀ in male's plumage." Ridgway (1907, Bull. U. S. Nat. Mus., L (4), p. 745, footnote e) compared two supposed females from Chamicuros with a female "*bahiae*" (= *cephaleucos*) from Bahia and found much similarity. I have no females of true *cephaleucos* but the young males of that form are much darker on back and under parts than the aberrant female at hand from Chamicuros. This female may be one of the two seen by Ridgway; in any case the existence of another specimen like it from the same locality may indicate some factor in this plumage which still requires explanation. With normal examples of both adults and young of both sexes in hand, I am unable to find a place for this unusual plumage.

The measurements of the series of *pygmaea* and *occulta* show constant differences. Adult male *pygmaea:* wing, 58–61.5 mm.; tail, 24–25. Females: wing, 59–61.5; tail, 23.5–27. In *occulta* males: wing, 63–68; tail, 30.5–32. Females: wing, 64–65; tail, 33–34.

Pipra pipra coracina Sclater

Pipra coracina SCLATER, 1856 (June), P. Z. S. London, XXIV, p. 29—Bogotá; cotypes in British Mus.

The only properly assigned records of this subspecies from Perú are based on the specimens from Pomará in the present collection and a female from Chayavitas in the Tring collection, now also at hand. These birds agree in detail with birds from Bogotá and eastern Ecuador in the

higher portions of the Tropical Zone, as on the Río Suno and at Zamora.

The rich velvety black of the back of the adult males separates them from the males of any other Peruvian form and is equaled only by examples of *anthracina* (where the color of the back has even less violaceous tone and the feathers of the forehead, if not also the crown, have white bases) and *minima* (which is much smaller). The females and younger males, however, are separable from those of other forms by the very decided yellow coloration of the belly, often approaching Citron Yellow. A female from Andalucia, Colombia, and a probable young male from Antioquia are slightly darker and duller than Ecuadorian examples, but a female from Buena Vista, above Villavicencio, matches some of the Ecuadorian skins. The darker birds may show a very slight approach toward *anthracina*. The back also is between Oil Yellow and Yellowish Oil Green, a brighter hue than that of the other subspecies. The light gray of the head in the young males usually is sharply contrasted with the color of the back although sometimes there is a greenish tone on the occiput and nape which forms a transition between the two opposing hues. The females usually have the whole top of the head washed with green although one bird, sexed as a female, has a gray cap like some of the young males.

Young males in first annual plumage have the wings quite blackish except for the green outer margins of the outer web, and this green margin is obsolete at the bases of the quills, leaving a noticeable black patch just distad of the upper wing-coverts. The top of the head is very clear gray. These characters serve to distinguish this plumage from the adult females which do not have the black remiges nor so clear gray a cap, while the juvenals of both sexes have an even duller or greener cap and tend to show some brown on the upper wing-coverts.

Pipra pipra discolor, new subspecies

TYPE from Puerto Indiana, northern Perú. No. 232, 259, American Museum of Natural History. Adult male collected July 3, 1926, by Carlos Olalla and sons.

DIAGNOSIS.—Nearest to *Pipra pipra pipra* of the Guianas, southern Venezuela, and eastern Brazil north of the Amazon, but with the general color of the adult males somewhat glossier and distinctly bluer, less violaceous, with the black subterminal area of the feathers more sharply defined from the glossy tips. Much glossier than *coracina* of eastern Ecuador, nearer the Andes; bluer, less violaceous, and glossier than *microlopha* from northeastern Perú south of the Marañón, and with crest usually broader at the posterior end, occasionally tapered and rounded as in *microlopha;* wing longer than in *pygmaea* and feathers of crown grayer at their bases; general color much glossier than *comata* and crest shorter and with darker bases; less violaceous than *occulta* and with crest shorter.

RANGE.—Lower portions of the Río Napo in eastern Ecuador and Perú. Lower Tropical Zone.

DESCRIPTION OF TYPE.—Whole top and back of head white, with the feathers of the forehead whitish at their bases, those of the crown ashy gray, and those of the back of the head and the hind neck sooty; white feathers of anterior part of hind neck moderately long, forming a flattened crest somewhat rounded-truncate posteriorly and spread slightly over the anterior part of the mantle, concealing the feathers of the posterior part of the hind neck which are like the back. Back and upper tail-coverts near Dusky Slate; the glossy tips separated from the dull grayish bases by a band of deeper black which, in certain lights, is rather sharply defined from the glossy tips. Lores, sides of the head, and under parts about like the back, the belly slightly duller and blacker. Wings and tail sooty black, with a narrow border of glossy color like that of the back on the margins of the quills and upper wing-coverts; under wing-coverts like the breast. Wing, 67 mm.; tail, 24; exposed culmen, 8; culmen from base, 11; tarsus, 14; length of white cap from exposed base of culmen, 27; length of nuchal feathers, 10.

REMARKS.—The single female from north of the Amazon is not clearly separable from the same sex of typical *pipra*, although the wing is long (65 mm.) and the bill is smaller than usual in *pipra*.

Two adult males, one young male, and three females from Lagarto, right bank of the upper Ucayali, appear to belong here in spite of the curious distribution which this allocation predicates. The two adult males have all the characters of the lower Napo males and are distinguishable from *comata* of the Urubamba Valley as well as from *microlopha* which appears to intervene between Lagarto and the typical range of *discolor*. The specimens from Lagarto may possibly be incorrectly labeled and I prefer to see more material from the upper Ucayali before including Lagarto in the range of the Napo subspecies.

One male, labeled simply "Napo," from the Moore collection, agrees better with *microlopha* than with *discolor* and may also be incorrectly labeled and have come from the south bank of the Amazon, across from the mouth of the Napo.

Pipra pipra cephaleucos Thunberg

Pipra cephaleucos THUNBERG, 1822, Mém. Ac. Sci. St. Pétersb., VIII, p. 286—Brazil (I suggest Bahia); Upsala; ♂ in first annual plumage (Hellmayr).

Pipra pipra bahiae RIDGWAY, 1906, Proc. Biol Soc. Wash., XIX, p. 117—Bahia; U. S. Nat. Mus.

Three adult males and three supposed males in first annual plumage from "Bahia," and one male in first annual plumage from "Rio (de) Janeiro" represent the typical form in the present collection. I have also forty-eight skins from more northern localities, ranging from the Pará region west to beyond the Rio Tapajoz. These northern birds

have been referred to *cephaleucos* (or *bahiae*) by authors, although the present series points to a western extension of the supposed range, heretofore thought to be only as far as the Tocantins.

However, the material in hand shows that there is a marked difference between the Bahia and Rio skins and the series from Amazonia when only the males in first annual plumage are compared with each other. Adult males are indistinguishable with certainty, although it is possible that the Bahia and Rio birds are very slightly duller and less glossy, especially on the belly. As to adult females, I am unable to speak without females of the Bahian form. Two of the four birds which I take to be young males are beginning a molt into adult plumage; the other two are like them except for this feature and I do not believe that any of them represents the female sex. All agree in the decidedly white cap which in two of the birds is as purely white as in the adult males; one has a faint trace of drab-gray on the shafts of the nuchal plumes; one has these grayish shaft-stripes a little broader and occurring also on the occipital region. The back is no brighter than Hellebore Green; the under parts are near Neutral Gray with the belly not appreciably paler but with a variable tinge of dull, dark green on throat, breast, sides, and flanks, although this may sometimes be absent.

The corresponding plumage of the Amazonian birds differs as is described below.

Pipra pipra separabilis, new subspecies

TYPE from Taparâ, Rio Xingú, Brazil. No. 492,812, American Museum of Natural History. Male in first annual plumage, collected August 28, 1931, by Alfonso M. Olalla.

DIAGNOSIS.—Similar to *P. p. cephaleucos* of Bahia and Rio de Janeiro; adult males apparently indistinguishable, but males in first annual plumage separable by having the top of the head Pale Neutral Gray instead of white; back lighter green; under parts paler, especially on the belly, and with a stronger tinge of green on breast and flanks.

RANGE.—Region of the lower Amazon south of that river, from the left bank of the Rio Tapajoz eastward to the Tocantins and the district of Pará.

DESCRIPTION OF TYPE.—Whole top of head from forehead to the hind neck Pale Neutral Gray; back and upper tail-coverts very little darker than clear Yellowish Oil Green; lores dusky; auriculars and malar region Deep Neutral Gray; chin and throat Light Neutral Gray tinged with green (with several black feathers of the adult dress in place); center of the breast like the throat but sides decidedly greener, near Deep Grape Green; center of belly Pallid Neutral Gray; flanks broadly dark Grape Green; under tail-coverts slightly duller than the flanks. Remiges black, with a border of Jade Green along the outer margins of the feathers on the terminal two-thirds of the web, obsolete on the outer primaries, wider on the inner ones and on the

secondaries, and involving most of the outer webs and the tips of the inner webs of the tertials; primary-coverts like the primaries; rest of the upper wing-coverts with all exposed portions Jade Green; under wing-coverts Deep Neutral Gray with a faint wash of dark green. Tail blackish, with outer webs of all but the outermost feathers Jade Green, not quite reaching the tips, leaving a blackish terminal spot; inner webs of middle feathers less strongly greenish. Bill (in dried skin) blackish, with a small pale spot at tip of mandible; feet dull warm brown. Wing, 63 mm.; tail, 25; exposed culmen, 8; culmen from base, 11.75; tarsus, 13.

REMARKS.—Adult male moderately glossy violaceous black, with the belly rather duller and sometimes inclined to brownish; wings and tail with gloss confined to narrow margins; top of head, including moderately long occipital crest, white with narrow dusky or gray bases (except sometimes on anterior forehead which may be white to the base).

Adult female with back Yellowish Oil Green or even lighter; top of head Dark Olive Gray with a variable tinge of dull Lincoln Green; sides of head rather greener than crown; chin and throat greenish white or dull greenish yellow; breast and sides Vetiver Green; flanks brighter; belly like throat. Wings light fuscous with outer margins dull green; under wing-coverts Light Olive Gray. Remains of more juvenile plumage in some of the females shows the wings and wing-coverts duller and more buffy brown, with less depth of green.

Young males in juvenal plumage are like the young females in pattern but are darker and duller above and below. The cap is much like that of the adult female, without the clear gray of the first annual plumage, and the wings lack the pronounced black on the remiges that is characteristic of the first annual plumages of this form and *cephaleucos*. One skin with these juvenal wing-feathers, sexed as a male, has the cap clear gray, about Dark Gull Gray, without trace of greenish tinge.

Some of the males in first annual plumage from the Pará district have the forehead and part of the crown a little whitish, and one bird from the Xingú shows a lesser tendency in the same direction, but the skins from Bahia and Rio are quite decidedly whiter on the head, with the other coloration darker as indicated.

SPECIMENS EXAMINED

P. p. pipra.—DUTCH GUIANA: Lelydorp, 1 ♂; Libandoeg, 1 ♀; Rijsdijkweg, 1 ♂[1]; "interior," 6 ♂, 3 ♀. BRITISH GUIANA: Potaro Landing, 6 ♂, 3 ♀; "mines district," 2 ♂; Kamakusa, 5 ♂, 1 ♀; Rockstone, 3 ♂, 4 ♀; Tumatumari, 1 ♂, 3 ♀; Minnehaha Creek, 1 ♀; Wismar, 1 ♂; Demerara, 1 ♂, 1 ♂[1]; Hyde Park, 2 ♂[1]; Rio Carimang, 3 ♂[1]. FRENCH GUIANA: Ipousin, 2 ♂; St. Laurent du Maroni, 2 ♂[1]. BRAZIL: Faro, 16 ♂, 10 ♀, 2 (?); Manaos, 9 ♂, 4 ♀; Itacoatiara, 1 ♀[1]; Muirapinima, 1 ♂, 1 (?); Igarapé Cacao Pereira, 4 ♂, 3 ♀; Manacapurú, 3 ♂[2]; Santa

[1] Specimens in Field Mus. Nat. Hist., Chicago.
[2] Specimens in Carnegie Museum, Pittsburgh.

Maria, 2 ♂, 2 ♀; Tabocal, 1 ♂; San Gabriel, 1 ♀; Tatú, 2 ♀[1]; Mt. Curycuryari, 1 ♀; Rio Branco, Conçeiçao, 2 ♂[1], 1 ♀[1]; Rio Uaupés, Tahuapunto, 7 ♂, 4 ♀, 2 (?); Ianarete, 1 ♀; Teffé, 8 ♂. COLOMBIA: opposite Tahuapunto, Brazil, 2 ♂, 1 ♀; VENEZUELA: Río Cassiquiare, Solano, 1 ♂; Buena Vista, 1 ♂, 2 ♀, 1 (?); Río Orinoco, mouth of Río Ocamo, 3 ♂, 1 ♀; opposite mouth of Ocamo, 1 ♂; (western) foot of Mt. Duida, 1 ♂, 1 ♀; Río Caura, Suapure, 9 ♂, 5 ♀; La Unión, 3 ♂; La Prición, 8 ♂, 3 ♀; Nicare 8 ♂, 1 ♀; Río Mato, 1 ♂; Mt. Duida (various camps), 8 ♂, 9 ♀.

P. p. cephaleucos.—BRAZIL: "Bahia," 6 ♂; "Rio (de) Janeiro," 1 ♂.

P. p. separabilis.—BRAZIL: Para, 2 (?) (= 1 ♂, 1 ♀); Prata, 5 ♂, 2 ♀; Utinga, 3 ♂, 1 ♀; Providencia, 1 ♂, 1 ♀; Igarapé Assú, 1 (?); Santa Isabel (Para), 1 ♂; Peixe Boi, 1 ♂; Maguary, 1 ♂; Benevides, 1 ♂; Rio Tocantins, Mocajuba, 2 ♂, 2 ♀; Baião, 1 ♂, 1 ♀; Rio Majary, Recreio, 1 ♂, 1 ♀; Rio Xingú, Porto de Moz, 3 ♂, 1 (?); Villarinho do Monte, 2 ♂, 1 ♀; Tapará, 5 ♂ (incl. type), 1 ♀; Rio Tapajoz, Igarapé Brabo, 5 ♂, 1 ♀.

P. p. discolor.—PERÚ: Puerto Indiana, 2 ♂ (incl. type), 1 ♀; (? Lagarto[3]), 3 ♂, 3 ♀. Ecuador: mouth of Río Curaray, 8 ♂.

P. p. comata.—PERÚ: Garita del Sol, 1 ♂ (cotype); Idma, 2 ♂; mouth of Río Urubamba 1 ♂[4], 1 ♀[4].

P. p. microlopha.—PERÚ: Puerto Bermúdez, 5 ♂ (incl. type)[1], 1 ♀[1]; Chuchurras, 2 ♂, 1 ♀; Orosa, 17 ♂, 4 ♀; Sarayacu, 1 ♀. BRAZIL: São Paulo de Olivença, 1 ♂[2]. ("Napo" (errore), 1 ♂.)

P. p. occulta.—PERÚ: Uchco, 2 ♂ (incl. type), 2 ♀; Nuevo Loreto, 3 (?); Guayabamba, 4 ♂, 1 (?); "one of Baron's N. Peruvian skins, erroneously labeled Baeza, Ecuador," 1 ♂; Vista Alegre, 2 ♂[1]; Huachipa, 1 ♂[1], 1 ♀[1]; Chinchao, 1 ♂[1], 1 ♀[1].

P. p. pygmaea.—PERÚ: Chamicuros, 5 ♂ (incl. type), 3 ♀; Jeberos, 1 ♂, 1 "♀" (= ♂ ?), 5 ♀; Yurimaguas, 1 ♂[1].

P. p. coracina.—PERÚ: Pomará, 2 ♂; Chayavitas, 1 ♂. ECUADOR: Zamora, 2 ♂, 1 ♀; Guayaba, 1 ♂; Río Suno, above Avila, 1 ♂, 2 ♀; below San José, 9 ♂, 1 ♀; (no precise locality), 4 ♂. COLOMBIA: "Bogotá," 3 ♂, 1 ♂[1]; Buena Vista, 2 ♂, 1 ♀; Andalucia, 1 ♀; Antioquia, 1 (?).

P. p. minima.—COLOMBIA: Cocal, 3 ♂ (incl. type).

P. p. anthracina.—PANAMÁ: Chiriqui, 1 ♂; (Veraguas), 1 ♂[1]. COSTA RICA: Bonilla, 5 ♂.

Machaeropterus pyrocephalus pyrocephalus (Sclater)

Pipra pyrocephala SCLATER, 1852, Rev. Mag. Zool., (2) IV, p. 9—locality unknown; subst. Upper Amazons, Ucayali, Berlepsch and Hartert, 1902; ♂; Paris Mus.

Peruvian specimens presumably are topotypical and agree with the figure of the type published in the 'Contributions to Ornithology' for 1852, Pl. XCVII, fig. 1. Skins from Matto Grosso are the same and an adult male from the Rio Tapajoz is not clearly distinct. Two males from the Río Caura, Venezuela, differ from the skins from south of the

[1] Specimens in Field Mus. Nat. Hist., Chicago.
[2] Specimens in Carnegie Museum, Pittsburgh.
[3] Locality needs confirmation; see text.
[4] Not typical; see text.

Amazon sufficiently to warrant subspecific separation, and are described hereunder.

A young male from Fazenda Esperança, Goyaz, Brazil, extends the range of the species somewhat to the southeast.

Records in Perú are from Rioja, Moyobamba, the Ucayali, and the Marcapata Valley.

Machaeropterus pyrocephalus pallidiceps, new subspecies

TYPE from La Pricián, Río Caura, Venezuela. No. 493,143, American Museum of Natural History (Rothschild Collection). Adult male collected December 13, 1900, by E. André.

DIAGNOSIS.—Similar to *M. p. pyrocephalus* of northern Perú, south of the Amazon, but the yellow of head paler and the median stripe much less prominent, being nearly golden brown anteriorly and not very bright red posteriorly.

RANGE.—Known only from the type locality.

DESCRIPTION OF TYPE.—Top of head Lemon Chrome; a rather broad central stripe from the posterior border of the forehead to the nape, not very conspicuous; the anterior half of this stripe is hardly brighter than Yellow Ocher, with faint traces of brighter red which become more pronounced toward the occiput, giving the latter region a dull tinge or streaking of ill-defined scarlet; hind neck, back, and upper tail-coverts near Pecan Brown, with darker edges and paler centers; lateral interscapulars tipped with Roman Green. Auriculars Roman Green, with a slight touch of the same color in front of the eye; rest of lores Rood's Brown; narrow circumocular ring like the lores but with the tips of the feathers green; under parts with Vinaceous-Fawn centers and Sorghum Brown margins, giving a noticeably streaked appearance. Scapulars mostly Roman Green but posterior ones like the mantle; remiges mostly blackish with inner margins white (restricted to the middle of the inner margin on the outer primary, becoming more extensive toward the inner primaries and outer secondaries, and obsolete on the inner secondaries); outer margins of outer primaries largely or entirely black; of remaining primaries and outer secondaries, Roman Green; inner secondaries (with hypertrophied shafts) largely ashy gray, with green outer margins (distally), dusky tips, and a rounded blackish spot on the outer web before the tip and with suggestions of a dusky spot on the inner web of the innermost ones; tertials like the inner secondaries but with the tips greenish, and with the blackish spots becoming obsolete; primary-coverts and alula black; rest of upper wing-coverts Roman Green; under wing-coverts, axillars, and post-axillary tufts white, with a trace of vinous at the carpal margin of the wing. Tail stiffened, brownish, with a faint greenish tinge on the outer margins of the rectrices and an ashy tinge on the inner margins, especially of the outer feathers. Bill (in dried skin) with maxilla blackish, mandible warm brownish; feet light brown. Wing, 51.5 mm.; tail, 21.25; exposed culmen, 7; culmen from base, 10; tarsus, 14.

REMARKS.—Female unknown. A second male has the central head-stripe a little brighter than in the type, but it is still much less brilliant red than in typical *pyrocephala* and the rest of the top of the head is even paler yellow than in the type.

These specimens were once examined by Dr. Hellmayr who has commented on the reduction of red on the top of the head. The six adult males of *pyrocephala* now before me show so little approach toward the characters of the Venezuelan birds that, taking into account the wide separation of ranges, I believe that the subspecific distinction is fully warranted.

SPECIMENS EXAMINED

M. p. pyrocephalus.—PERÚ: Santa Rosa, Río Ucayali, 4 ♂, 2 ♀; Uchco, east of Chachapoyas, 1 ♂. BRAZIL: Utiarity, 2 ♂; Tapirapoan, 4 ♂, 2 ♀; Igarapé Brabo, Rio Tapajoz, 1 ♂; Tauarý, 1 ♀; Piquiatuba, 1 ♂; Fazenda Esperança, Goyaz, 1 ♂.

M. p. pallidiceps.—VENEZUELA: La Pricións, Río Caura, 2 ♂ (incl. type).

Manacus manacus interior Chapman

Manacus manacus interior CHAPMAN, 1914 (Nov. 21), Bull. Amer. Mus. Nat. Hist., XXXIII, p. 624—Villavicencio, eastern Colombia; ♂; Amer. Mus. Nat. Hist.

Two birds from Puerto Indiana, a female and a young male, agree with east-Ecuadorian and east-Colombian specimens in corresponding plumage, and evidently belong to *interior*. A young male from Orosa, south of the Amazon and east of the Ucayali, is not so certain. This bird is molting into the adult plumage and has the new feathers on the sides of the breast quite definitely gray, not white as they are in adult males of *interior*. The green of the breast and upper parts is somewhat lighter than in the average young male of *interior* and the lengths of wing and tail are short, agreeing with *subpurus* rather than with *interior*. The upper belly is pale yellow in distinct contrast to the green breast, and the under tail-coverts also are unusually pale, while the lower belly is white, apparently still in juvenal plumage. The throat, still in fluffy juvenal plumage, is distinctly whitish, and the chin and malar region are light olive gray.

These characters do not match those of any young males of surrounding forms of *manacus* and it is possible that an undescribed form is here awaiting description when adult males are at hand for study and definition. There is no other record from this particular portion of Perú. Specimens from Chayavitas, Pebas, Nauta, and Yurimaguas, and a sight record from Balsapuerto (Stolzmann) have been assigned to *interior*.

In examining the various subspecies for comparison, several points of interest have been uncovered. First to be noted is the fact that birds from Paramba, northern Ecuador, are not *leucochlamys*, as recorded, but *bangsi*. This is not surprising in view of the fact that the Río Mira, on

which Paramba is situated, has its mouth in close proximity to that of the Río Patia on which Barbacoas, the type locality of *bangsi*, is placed. A single male from San Javier, presumably near Paramba, is closer to *bangsi* than to *leucochlamys*. A male from Cachabi, on the other hand, appears to be true *leucochlamys*.

I am inclined to recognize *maximus* of the Alamor region as distinct from *leucochlamys*, although its distribution is very limited and its characters purely dimensional. Where the line should be drawn between them is problematical, as Dr. Chapman has already pointed out, but there certainly is a marked difference between the birds of Esmeraldas and Cachabi and those of Alamor, La Chonta, and Cebollal.

A small series of birds from the right bank of the Rio Xingú, Brazil, are not intermediate between *purus* and *purissimus*, as would be expected from geographic reasons, but rather between *purissimus* and typical *manacus* of the north bank of the Amazon. Additional distinction from both of these forms leads me to describe the Xingú birds as new.

Manacus manacus longibarbatus, new subspecies

TYPE from Tapará, Rio Xingú, Brazil. No. 429,836, American Museum of Natural History. Adult male collected August 23, 1931, by Alfonso M. Olalla.

DIAGNOSIS.—Combining certain characters of *manacus* and *purissimus* but with a longer "chin-beard" than either. White area on mantle broader and purer white than in *manacus* and the black portion of the back correspondingly narrower, the gray of the rump averaging somewhat broader. White area of the upper wing-coverts more extensive than in *manacus*, involving broadly the subterminal parts of the median series or even sometimes the greater series. Wing-tip shorter than in *purissimus* and with the outer primaries proportionately more slender; length of wing correspondingly shorter. Lower belly and thighs grayer, less whitish than in *purissimus*, though not so dark as in *manacus*, equaling *purus* in this respect.

RANGE.—Right bank of the Rio Xingú, Brazil, apparently extending eastward to the Tocantins.

DESCRIPTION OF TYPE.—Top of head glossy black, forming a rounded cap which involves the lores and superciliary region and reaches the nape. Hind neck and upper mantle white in a broad cape about 25 mm. in breadth; middle of back crossed by a black band about 20 mm. wide; rump and upper tail-coverts clear Slate-Gray. Under parts pure white except the lower flanks, lower belly, and thighs which are Deep Gull Gray, with narrow whitish tips on the thighs; under tail-coverts with a faint grayish tinge. Remiges black, with the inner margins of the secondaries whitish; greater upper wing-coverts and upper primary-coverts black; median upper coverts black only at tips, with the remainder of the feathers (back to the narrow gray bases) white; lesser series white; under wing-coverts and axillars white with a grayish tinge toward the carpal margin. Wing-tip short, 6 mm. between the tips of the longest primaries and secondaries. Tail black. Chin-feathers distinctly stiffened and long,

the longest 17 mm. Bill (in dried skin) dull blackish; feet pale buff, claws darker brown. Wing, 49 mm.; tail 30.5; exposed culmen, 9; culmen from base, 12; tarsus, 20.

REMARKS.—Females not clearly distinguishable from those of *manacus*, with which they agree in color as well as in the narrowness of the outer primaries and somewhat shortened wing-tip. Upper parts Light Hellebore Green, becoming duller on the breast and somewhat grayer on the throat; belly and under tail-coverts yellowish; wings and tail brownish black with exposed outer margins green like the back; under wing-coverts yellowish white except along carpal margin; inner margins of secondaries basally yellowish.

The long stiff beard of this form is shared with *M. m. abditivus* of the Santa Marta Region, but the other characters alternate between those of *manacus* and *purissimus*.

The distribution of this form on the Tocantins is puzzling. Three males and one female, labeled as from Baião (right bank of the Tocantins), unquestionably belong to the new form, but I have two males and one female, also apparently from Baião though obtained by other collectors and in other years, which are equally certainly *purissimus*. Other specimens of *purissimus* are at hand from Mocajuba, on the same side of the river as Baião though a little farther downstream. The two forms probably do not occur exactly side by side at Baião, but more field work will be necessary to determine the distributional limits, whether geographical or ecological.

SPECIMENS EXAMINED

M. m. manacus.—DUTCH GUIANA: 8 ♂, 1 ♀, 1 (?). FRENCH GUIANA: 21 ♂, 1 ♀. BRITISH GUIANA: 10 ♂, 2 ♀. BRAZIL: Faró, 14 ♂, 3 ♀, 1 (?); Monte Alegre, 1 ♂; Manaos, 22 ♂, 3 ♀; Igarapé Cacao Pereira, 2 ♂, 3 ♀, 1 (?). VENEZUELA: Río Cassiquiare (east bank), Buena Vista, 1 ♂.

M. m. trinitatis.—TRINIDAD: 14 ♂ (incl. type), 15 ♀, 2 (?).

M. m. gutturosus.—BRAZIL: Bahia, 9 ♂, 6 ♀, 1 (?); Rio de Janeiro, 1 ♂; Organ Mts., 1 ♀; Mt. Itatiaya, 1 (?); Estado São Paulo, 5 ♂, 5 ♀.

M. m. purissimus.—BRAZIL: Utinga, 2 ♂, 2 ♀; Prata, 4 ♂, 4 ♀; Maguary, 1 ♂; Marca de Legua, 1 ♂; Providencia, 1 ♂; Benefice, 1 ♀; Rio Tocantins, Baião, 2 ♂, 1 ♀; Mocajuba, 4 ♂, 3 ♀.

M. m. longibarbatus.—BRAZIL: Rio Xingú, Porto de Moz, 5 ♂, 1 ♀; Tapará, 3 ♂ (incl. type); Rio Tocantins, "Baião," 3 ♂, 1 ♀.

M. m. purus.—BRAZIL: Rio Tapajoz, Piquiatuba, 2 ♂; Caxiricatuba, 1 ♂; Igarapé Brabo, 3 ♂; Igarapé Amorin, 2 ♂, 2 ♀; Tauarý, 1 ♂, 1 ♀; Aramanay, 1 ♂, 4 ♀; Santarem, 6 ♂, 1 (?); Diamantina, 1 ♂; Rio Amazonas, Tamucurý, 1 ♀; Villa Bella Imperatríz, 9 ♂, 2 ♀.

M. m. subpurus.—BRAZIL: Tapirapoan, 1 ♂ (type); Mutum Cavallo, 1 ♂; Calamá, 2 ♂; Santa Isabel, Rio Preto, 1 ♂; Humaythá, 1 ♀; Jamarysinho, 1 ♂.

M. m. interior.—COLOMBIA: Villavicencio, 1 ♂ (type), 2 ♀; "Bogotá," 4 ♀, 2 (?). ECUADOR: Río Suno above Avila, 3 ♂, 1 ♀; lower Río Suno, 1 ♀; mouth of Río Curaray, 3 ♂, 5 ♀; Zamora, 1 ♂; (no locality), 1 ♂. PERÚ: Puerto Indiana, 1 ♂, 1 ♀. BRAZIL: Rio Negro, Yucabí, 1 ♂. VENEZUELA: Maripa, 6 ♂, 1 ♀; La Unión, 1 ♂.

M. m. subspecies?.—PERÚ: Orosa, 1 ♂.

M. m. maximus.—ECUADOR: Alamor, 6 ♂ (incl. type), 3 ♀; Cebollal, 1 ♂, 2 ♀; La Chonta, 2 ♀.

M. m. maximus × *leucochlamys.*—ECUADOR: Santa Rosa, 2 ♂, 4 ♀.

M. m. leucochlamys.—ECUADOR: Esmeraldas, 5 ♂ (incl. type), 1 ♀; Cachabi, 2 ♂; Río de Oro, 2 ♂; Bucay, 5 ♂; Coco, 2 ♂; Río Jubones, 1 ♂; Chimbo, 1 ♂, 3 ♀; Naranjo, 1 ♂, 1 (?); coast of Manaví, 1 ♂, 1 ♀; Quevedo, 1 ♂; Duran, 1 ♂.

M. m. bangsi.—COLOMBIA: Barbacoas, 7 ♂ (incl. type), 3 ♀. ECUADOR: Paramba, 5 ♂, 1 ♀; San Javier, 1 ♂.

M. m. flaveolus.—COLOMBIA: "Bogotá," 10 ♂; Espinal, 1 ♂; Chicoral, 4 ♂, 1 ♀; Honda, 1 ♂; near Honda, 6 ♂.

M. m. abditivus.—COLOMBIA: Cacagualito, Santa Marta, 5 ♂, 1 ♀; Minca, 3 ♂, 1 ♀; Don Diego, 1 ♂, 1 ♀; Bonda, 2 ♂, 3 ♀; Massinga la Vieja, 1 ♂; Donama, 1 ♂; Jordan, 1 ♀; Antioquia, 2 ♂; Malena, 1 ♂; Puerto Valdivia, 1 ♂.

Schiffornis turdinus amazonus (Sclater)

Heteropelma amazonum SCLATER, 1860, P. Z. S. London, XXVIII, p. 466—Chamicuros, Perú; British Mus.

I have no strictly topotypical material of this subspecies, but an example from the upper Ucayali agrees so well with upper Rio Negro (Brazil) and southwest-Venezuelan examples (birds from this area have been assigned to *amazonus* by various authors) and shows such relationship to *wallacii* of the lower Amazon, that there is little doubt as to the correct assignment to this form. The dull-colored belly, the moderately developed tawny coloration of the throat, the distinctly brown cap, and the dark and moderately brownish back are characters which appear in specimens from these various regions. Skins from the lower Amazon which belong to *wallacii* are paler throughout than *amazonus* but have the same style of coloration. In general, the top of the head is only slightly brownish and the throat but little tinged with pale fulvous, and examples from the Tocantins and the Pará district that I have seen are all of this complexion; but specimens from the Tapajoz and westward rather frequently show an increasing warmth of color on the head and throat, reaching a development on the Rio Madeira that strongly suggests *amazonus* although the belly remains pallid and the back lighter olivaceous than in the more western form. At the same time, certain specimens from this whole region remain inseparable from the birds from Pará. Consequently I believe that *wallacii* extends westward at least

as far as the Madeira with increasing tendencies toward certain characters of *amazonus* as the range of the latter is approached.

One skin from the Lawrence collection, without original label but said to be from the "Upper Amazon," is of doubtful identity. It does not exactly match any other specimen of any subspecies now before me. The throat is rather warmly colored and the belly is pale as in *wallacii* though of a faintly more brownish tint. The top of the head is strongly rufescent brown of a brighter hue than in most *amazonus*. The back is brown, paler than in other skins that belong to *amazonus* but browner than in *wallacii*. The nearest approach to the coloration of this skin is found in a female from Nericagua, Río Orinoco, but the resemblance is far from exact.

A single female from the mouth of Lagarto Cocha, southeastern Ecuador, is very similar to the Ucayali bird and to the southwest-Venezuelan specimens, although it is a trifle more greenish on the belly, probably in an approach toward the birds of Ecuador from higher elevations. Lagarto Cocha is on the Amazonian plain and logically comes within the range of *amazonus* as it reaches from eastern Perú across the lowlands to the upper Rio Negro and the upper Orinoco.

Peruvian records are from Chamicuros, Yurimaguas, "Río Ucayali," and Soriano.

As indicated in a preceding paragraph, specimens from eastern Ecuador and adjacent parts of northern Perú, taken at relatively high elevations in the Tropical Zone, are different from *amazonus*, and as they are also recognizably distinct from *rosenbergi* of the western slopes of the Ecuadorian Andes, they deserve a separate name as follows.

Schiffornis turdinus aeneus, new subspecies

TYPE from Chaupe, Perú; altitude 6100 feet. No. 181,504, American Museum of Natural History. Adult male collected April 12, 1923, by Harry Watkins; original No. 7248.

DIAGNOSIS.—Nearest to *S. t. rosenbergi* of western Ecuador and southwestern Colombia, but upper parts browner, less greenish; crown with more decided rufescence; breast more strongly brownish but belly rather brighter greenish; outer surface of wings warmer brown.

Compared with *S. t. amazonus* of eastern Perú, the whole coloration is much brighter, with a stronger greenish tinge throughout and with the belly, in particular, decidedly greener, the breast a more golden brown, and the back more bronzy.

RANGE.—The eastern slope of the eastern Andes in Ecuador and the adjacent portion of Perú north of the Marañón, not extending very far into the Amazonian plain.

DESCRIPTION OF TYPE.—Upper parts somewhat browner than Medal Bronze; forehead with a grayish tinge; crown and occiput strongly suffused with light Argus

Brown; sides of head somewhat dusky in tone. Chin and throat Orange-Citrine; breast Saccardo's Olive; belly near Yellowish Olive. Wings and tail Clove Brown with exposed outer margins of the remiges Prout's Brown; outer margins of the rectrices more like the back; greater and median upper wing-coverts like the remiges; lesser coverts like the back. Under wing-coverts grayish, with paler tips and with a pale greenish tinge at the carpal margin. Bill (in dried skin), dull blackish; feet reddish brown. Wing, 93.5 mm.; tail, 71; exposed culmen, 13; culmen from base, 17; tarsus, 22.

REMARKS.—Females like the males in color but somewhat smaller (wing, 86–88.5 mm.; tail, 61–63 as against 91–94 and 66–72.5, respectively).

This form has been misidentified heretofore as *amazonus*, but it is a quite different bird and resembles *rosenbergi* more than it does *amazonus*. It stands exactly between *rosenbergi* and *furvus* in appearance. In dorsal aspect, *aeneus* and *furvus* are exceedingly alike, but *furvus* usually is more deeply golden on the throat and breast and its extremes are also browner on the back.

The range of *furvus* probably is more extensive than has been supposed. Two males from Chocó, Colombia (probably near Quibdó), a female from Primavera, and a male from the Nóvita trail all have a browner back, more rufescent crown-patch, and more pronouncedly golden-bronzy throat than any of the specimens from western Ecuador or extreme southwestern Colombia. They agree much better with *furvus* than with *rosenbergi*, and I suspect that *furvus* finds its way from the Tacarcuna region of eastern Panamá, up the Atrato Valley and into the upper confines of the Río San Juan Valley. In the other direction, *furvus* extends through Panamá into the mountains of Veraguas which it occupies on both Caribbean and Pacific slopes without descending into the coastal western forests on the Pacific side where *verae-pacis* is in possession, nor the eastern ones where *panamensis* is found.

Schiffornis turdinus steinbachi Todd

Schiffornis turdinus steinbachi TODD, 1928 (June 29), Proc. Biol. Soc. Wash., XLI, p. 113—Yapacani, Prov. del Sara, Bolivia; ♂; Carnegie Mus.

I have no Peruvian material from the southeastern part of the country and follow Hellmayr in referring the records from that region to the Bolivian form. I would amend Hellmayr's assignment of the Cosñipata record to *amazonus* by placing it under *steinbachi*, since Cosñipata is in the Madre de Dios drainage along with Río Cadena and Chontapunco (Marcapata Valley) though on an adjacent tributary. Records thus comprise Río Cadena, Chontapunco, and Cosñipata.

SPECIMENS EXAMINED

S. t. verae-pacis.—GUATEMALA: 3 (?). NICARAGUA: Río Grande, 1 ♂, 1 ♀; Savala, 2 ♂; Los Sabalos, 1 ♂; "state of Matagalpa or borders," 1 (?). COSTA RICA: Carrillo, 1 ♂; Miravalles, 1 ♂, 1 ♀; La Iberia, 2 ♂; El Pozo, Río Terraba, 1 ♂; Guacimo, 1 ♂; Palmar, 1 ♂; Jimenez, 1 ♂; Puerto Jimenez, 2 ♂; Bonilla, 1 ♀; Volcán de Oso, 1 ♀.

S. t. panamensis.—PANAMÁ: El Real, 2 ♂, 5 ♀ (incl. type.); Tapalisa, 1 ♀; Chepigana, 1 ♀; (Lion Hill), 1 ♂, 1 ♀; Río Sambú, 1 ♂; Cape Garachiné, 1 ♂; savanna near Panamá, 1 ♀.

S. t. furvus.—PANAMÁ: Guaval, Río Calovévora, 3 ♂, 4 ♀; Santa Fé, Veraguas, 3 ♂, 1 ♀; Tacarcuna, 2 ♂, 1 (?); east slope of Mt. Tacarcuna, 7 ♂; Cascajal-Coclé, 1 ♂; El Villano, 1 ♂; La Marea, 1 ♂. COLOMBIA: Chocó, 2 ♂; Primavera, 1 ♀; Nóvita trail, 1 ♂.

S. t. rosenbergi.—COLOMBIA: Barbacoas, 1 ♀; Buena Vista, 1 ♀. ECUADOR: Esmeraldas, 1 ♂, 1 ♀; Cachavi, 1 ♂; Chimbo, 1 ♂; Mindo, 1 ♀; Cachiyacu, 1 ♂, 1 ♀; Lita, 1 ♂, 1 ♀; La Puente, 1 ♀; Alamor, 1 ♂.

S. t. aeneus.—ECUADOR: Zamora, 4 ♂; Sabanilla, 1 ♀; San José de Sumaco, 1 ♂, 2 ♀; lower Sumaco, 1 ♂, 1 ♀; Macas region, 1 (?). PERÚ: Chaupe, 3 ♂ (incl. type).

S. t. steinbachi.—BOLIVIA: Mission San Antonio, 2 ♂, 3 ♀.

S. t. amazonus.—PERÚ: Lagarto, 1 ♂, Huachipa, 1 ♀[1]. ECUADOR: mouth of Lagarto Cocha, 1 ♀. "Upper Amazon": 1 (?). VENEZUELA: Boca de Sina ,1 ♂; (western) foot of Mt. Duida, 1 ♂; (southern) foot of Mt. Duida, 1 ♂; Solano, 1 ♂; Río Huaynia, 4 ♂, 2 ♀, 1 (?); mouth of Río Ocamo, 1 ♀; Nericagua, 1 ♀; Munduapo, 1 ♂, 1 ♀.

S. t. wallacii.—BRAZIL: Rio Madeira, Humaythá, 2 ♂, 2 ♀; Calamá, 1 ♂; Alliança, 1 ♂; Borba, 1 ♀; Igarapé Auará, 1 ♂; Rio Machados, Maruins, 1 ♀; Rio Roosevelt, "Camp 22," 1 ♀; Morinha Lyra, 1 ♀; Villa Bella Imperatríz, 2 ♂, 1 ♀; Rio Tapajoz, Igarapé Brabo, 1 ♂, 2 ♀; Caxiricatuba, 1 ♂, 2 (?); Limoãl, 1 ♂, 2 ♀; Tauarý, 2 ♂; Rio Tocantins, Baião, 1 ♂, 1 (?); Rio Xingú, Victoria, 1 (?); Porto de Moz, 1 ♀; Utinga, 1 ♂; Prata, 4 ♂; Faro, 2 ♂, 2 ♀, 1 (?); Obidos, 1 ♂, 1 ♀. DUTCH GUIANA: near Paramaribo, 2 ♂; "interior," 2 ♂.

S. t. olivaceus.—BRITISH GUIANA: Camacusa, 2 ♂, 2 ♀, 1 (?); Bartica Grove, 1 ♂; Carimang River, 1 ♂; Potaro Landing, 1 ♂; Tumatumari, 1 ♂. VENEZUELA: Río Mato, 1 ♀ (type); La Pricións, 1 ♀; Nicare, 1 ♀.

S. t. stenorhynchus.—COLOMBIA: Santa Marta, Cacagualito, 1 ♀, 1 (?); Bonda, 1 ♀, 2 (?); Onaca, 1 (?); El Consuelo, above Honda, 1 ♂.

S. t. turdinus.—BRAZIL: "Bahia," 1 (?); "Rio Janeiro," 1 (?); "Brasilia," 1 ♂.

Schiffornis major major Des Murs

Schiffornis major DES MURS in CASTELNAU, 1856 (June), 'Expéd. Amér. Sud,' Ois., livr. 18, p. 66, Pl. XVIII, fig. 2 (*Schifformis* on plate)—Sarayacu, Perú; Paris Mus.

Heteropelma rufum PELZELN, 1868 (Sept.), 'Orn. Bras.,' II, p. 185—Borba and Rio Amajaú, Brazil; Vienna Mus.

A series of twenty-two specimens from northeastern Perú and the

[1] Specimen in Field Museum of Natural History, Chicago.

Rio Madeira, Brazil, shows all intermediate types of coloration between the gray-headed extreme and the purely rufous opposite. Six birds have only the slightest, or no, trace of gray in the plumage. Five of these are from Perú; one is from Rosarinho, Brazil. Nine skins have a varying amount of gray around the eyes but none on the top of the head. Three of the birds with the least amount are from Perú, and one is from Brazil. The remaining seven specimens (all from Brazil) agree among themselves in having some gray on the top of the head, but they differ from each other in various particulars. One Peruvian female has gray around the eye and a few grayish feathers on the forehead, while the mantle-feathers are faintly clouded in their centers. A male from Perú has the whole top of the head rather uniformly olivaceous gray with bright ochreous marginal spots on the feathers giving an orange-colored tinge to the whole area, particularly strongly on the forehead. The sides of the head are somewhat similar. Another Peruvian male has the forehead rather clear gray, with dusky shafts, and with a faint ochraceous-orange tinge. The occiput is deep Sanford's Brown with very narrow grayish tips, and the crown shows the transition between these two extremes. The hind neck is somewhat more broadly tipped with gray than the occiput. Two males from the lower Rio Madeira are much like the last-described Peruvian bird. A female from the same region has the whole top and the sides of the head dull gray with the forehead suffused with orange-ochraceous and with a strong tinge of the same color nearly concealed on the subterminal portions of the feathers of crown and occiput. A female from the Rio Machados is mostly rufescent, but the mantle is a little duller than Cinnamon-Rufous and the tips of the rufous feathers on the top of the head are Drab.

None of these birds has any definite gray on the throat although Taczanowski has described the type of *major* as having the throat gray washed with rufous. Hellmayr (1910, 'Gen. Avium,' pt. 9, p. 23) has discussed various other specimens from Perú and Brazil, and, judging from his descriptions, the range of variation in his material was about as I have noted for the series now in my hands.

This evidence substantiates Hellmayr's conclusions that "*Heteropelma rufum*" is a synonym of *Schiffornis major*. The two styles of plumage are no more than extremes of individual variation, occurring without regard to age, sex, season, or locality. Within the rufous extremes there is considerable variation in regard to depth of color. Some specimens have the whole under parts almost uniformly colored; others have the belly much paler than the breast. Similarly on the upper parts, there is

sometimes little change of tint on the rump though this area is usually much paler than the mantle which also is variable in depth of hue and sometimes has a slight brownish tinge.

Six specimens from the neighborhood of Mt. Duida, Venezuela, not included in the above analysis of characters, show a new extreme not only in the known distribution of the species but in the development of a gray head and a brown mantle, and are so different from any of the other specimens at hand that I believe them to represent a distinct subspecies. Accordingly, I describe them as hereunder.

Records of *major* include Nauta and Samiria, Peruvian localities not represented in the material at hand.

A careful study of this species in comparison with *Schiffornis turdinus* in its various forms leads me to place the two species in the same genus. The only character of any permanence is that of color; whereas *major* is strongly rufescent, *turdinus* is olive and brown. The bill of *major* averages shorter than that of *turdinus*, as do also the tail and tarsus, but there are specimens in both species which can be matched in these respects which, after all, are hardly of generic value. The scutellation of the tarsus and the degree of syndactylism of the toes are comparable in both species and show their close affinity in family relationship.

Schiffornis major duidae, new subspecies

TYPE from the right bank of the Río Cassiquiare, Venezuela, opposite El Merey. No. 433,387, American Museum of Natural History. Adult female collected April 15, 1929, by the Olalla brothers.

DIAGNOSIS.—Similar to the gray-headed phase of *S. m. major*, but the gray of the head clearer and more extensive, without definite rufescence on the concealed portions of the feathers from the forehead to the hind neck; upper back decidedly brown instead of rufous.

RANGE.—At present known only from the vicinity of Mt. Duida, Venezuela.

DESCRIPTION OF TYPE.—Whole top of head and hind neck slightly clearer than Deep Mouse Gray; mantle dark Saccardo's Umber; upper margin of rump Cinnamon-Rufous × Orange-Rufous, passing into Apricot Buff × Ochraceous-Buff on the lower rump and upper tail-coverts. Sides of head a little paler gray than the crown; chin whitish; throat Light Grayish Olive, with slight traces of cinnamomeous buff on the margins of the central feathers; breast crossed by a band of Orange-Rufous × Cinnamon-Rufous, becoming duller and browner on the sides; belly and under tail-coverts deep Ochraceous-Buff, deeper on the flanks. Wings dusky; outer margins of primaries near dark Olive Brown; those of secondaries becoming brighter and approaching Ferruginous × Hazel on the tertials; upper wing-coverts dull brownish, the greater and median series tipped with the color of the tertials (not sharply defined); lesser series near the color of the back; inner margins of remiges Light Pinkish Cinnamon, withdrawn basad on the outer primaries; under wing-coverts and axillars light Cinnamon-Rufous. Tail dark Cinnamon-Rufous. Bill (in dried skin),

blackish; feet blackish brown. Wing, 80 mm.; tail, 56; exposed culmen, 11; culmen from base, 16; tarsus, 20.25.

REMARKS.—Males like the females.

Although this form might appear to represent only the extreme development of typical *major*, it has gone so far as to stand well by itself and deserves separate recognition. None of the twenty-two examples of true *major* approach the Duida birds very closely either in respect to the unmixed gray of the top of the head or the strong brownish hue of the mantle. There is also a probability that the grayish throat of *duidae* is an additional character, being quite definitive in the material at hand, but Taczanowski (1884, 'Orn. Pérou,' II, p. 352) describes the type of *major* as having the throat gray, washed with rufous, apparently as it is in the series of *duidae*.

SPECIMENS EXAMINED

S. m. major.—PERÚ: Sarayacu, 2 ♂, 3 ♀; Lagarto, Río Ucayali, 2 ♂; Puerto Indiana, 1 ♂, 1 ♀; Anayacu, 1 ♀. BRAZIL: Rosarinho, 1 ♂; Borba, 4 ♂, 1 ♀; Igarapé Auará, 1 ♂, 1 ♀; Calamá, 1 ♂, 1 ♀; Jamarysinho, 1 ♀.

S. m. duidae.—VENEZUELA: Río Cassiquiare, opposite El Merey, 1 ♂, 1 ♀ (type); Caño León, Mt. Duida, 2 ♂, 1 ♀; Boca de Sina, Río Cunucunumá, 1 ♀.

Heterocercus aurantiivertex Sclater and Salvin

Heterocercus aurantiivertex SCLATER AND SALVIN, 1880, P. Z. S. London, p. 157—Sarayacu, Ecuador; cotypes in British Mus.

I have no specimens of this exceedingly rare form. Two specimens in the British Museum from Chamicuros were referred by Sclater ('Cat. Birds Brit. Mus.,' XIV, p. 325) to *flavivertex*, but the reference was transferred by Hellmayr to *aurantiivertex* with a note to the effect that one young male from Chamicuros had the bright crown feathers, that were just appearing, of a golden-yellow color.

There are no other Peruvian records. Peruvian material of this genus at hand belongs to *linteatus*, as is discussed below.

Heterocercus linteatus (Strickland)

Elaenia linteata STRICKLAND, 1850, Contrib. Orn., p. 121–15 (part; descr. "male"), Pl. (LXIII), (part; left fig.)—"Upper branches of the Amazon River"; ♂; Acad. Nat. Sci. Phila.

Puerto Indiana, 1 ♀; ["Upper Amazon,"], 1 ♂.

These two specimens must be referred to *linteatus* and not to *flavivertex* or *aurantiivertex* as the locality north of the Amazon (Puerto Indiana) might indicate as probable.

The Puerto Indiana female has the under parts paler and more

ochraceous in tone, less cinnamomeous, than females of either *linteatus* or *flavivertex* from other localities. The upper parts also are slightly paler than in most female *linteatus*, but are still a brownish olive far removed from the bright Warbler Green or Serpentine Green of *flavivertex* which *aurantiivertex* is said to share. The throat is clearer white than in most *flavivertex*, without the grayish tinge of that form, and the under wing-coverts are brownish ochraceous rather than grayish green.

However, the female of *aurantiivertex* is unknown, and there is a slight possibility that the females resemble those of *linteatus* while the males are more like *flavivertex*. Until such possibility is assured, however, the Puerto Indiana female must be referred to *linteatus*.

The young male from the "Upper Amazon," collected by Herndon, is possibly from Perú, since Herndon (1854, 'Explor. Valley Amaz.,' I, p. 271), says that most of his birds, taken before he reached Manaos, came from the neighborhood of Pebas. This specimen agrees with other young males of *linteatus* in most particulars except that a single bright feather appearing on the left side of the crown is nearer orange than red in color, although the basal part of this feather is broadly white as in *linteatus*, not gray as in *flavivertex*. Young males of *linteatus* from other localities have the crest-feathers somewhat more orange-scarlet than the average adult males, but they are still redder than in Herndon's specimen. The dull bronzy olive dorsum, however, agrees with *linteatus* and not with *flavivertex* or, presumably, *aurantiivertex*. The under parts below the dull whitish throat are more deeply cinnamomeous than in the Puerto Indiana female or other females of *linteatus* but paler than in adult males.

There are no definite earlier records of *linteatus* from Perú unless the bird obtained by Bates on the "Upper Amazon" or the type of the species, also from the "Upper branches of the Amazon," came from this country, a not unlikely possibility.

It may be noted here that *flavivertex* has a more extensive range than has been supposed. Specimens are at hand from the right bank of the lower Rio Negro in Brazil, not far above the mouth, and from Faro, somewhat to the eastward.

Specimens Examined

H. linteatus.—Brazil: Rio Tapajoz, Aramanay, 1 ♂, 2 ♀; Igarapé Brabo, 4 ♂, 1 ♀, 1 (?); Igarapé Amorin, 2 ♂; Tauarý, 3 ♂, 3 ♀; Limoãl, 1 ♂; Isla de Goyana, 1 ♂; Isla do Papagaio, 1 ♂; Rio Madeira, Borba, 1 ♂; Humaythá, 3 ♂, 1 ♀; Alliança, 1 ♀; Rio Roosevelt, "Camp 30," 1 ♂; Broken Canoe Rapids, 1 ♀; Teffé, 1 ♂. Perú: Puerto Indiana, 1 ♀; ? "Upper Amazon," 1 ♂.

H. flavivertex.—Brazil: Faro, 2 ♂; Rio Negro, Muirapinima, 3 ♂, 5 ♀; San

Gabriel, 3 ♂, 3 ♀; Camanaos, 1 ♀; Yucabí, 1 ♂; Tatú, 1 ♂. VENEZUELA: Río Cassiquiare, Buena Vista, 1 ♂; Solano, 2 ♂; Río Huaynía, junction of Cassiquiare, 4 ♂; terrain between junction of Huaynía and Cassiquiare, 1 ♂; Mt. Duida, Caño León, 1 ♀; Río Pescada, 1 ♂; "Primer Campamento," 1 ♂; Río Ocamo, 1 ♀; opposite mouth of Río Ocamo, 1 ♂; Esmeralda, 3 ♀; Ayacucho, 1 ♀; San Fernando de Atabapo, 1 ♂, 1 ♀; Maipures, 6 ♂, 3 ♀; Perico, 2 ♂.